# DETERMINING A MOOD FOR A GROUP

## TECHNICAL FIELD

Embodiments of the present disclosure relate generally to mobile computing technology and, more particularly, but not by way of limitation, to determining a mood for a group of people.

## BACKGROUND

Text messages and/or pictographs are a popular form of expression in digital communications. Users of various mobile computing devices frequently take pictures of themselves and their surroundings.

Technological advances in facial recognition allow an image processing system to determine an emotion of a user based on an image of the user's face. In some scenarios, an image processing system may be more sensitive than a human.

## BRIEF DESCRIPTION OF THE DRAWINGS

Various ones of the appended drawings merely illustrate example embodiments of the present disclosure and should not be considered as limiting its scope.

FIG. **1** is a block diagram illustrating a networked system, according to some example embodiments.

FIG. **2** is a block diagram illustrating one embodiment of a system, according to some example embodiments.

FIG. **3** is a block diagram illustrating one embodiment of a system, according to some example embodiments.

FIG. **4** is a diagram illustrating an example of a determining a mood for a group of attendees at an event, according to some example embodiments.

FIG. **5** is a chart illustrating one example of a model of human emotions, according to one example embodiment.

FIG. **6** is a diagram illustrating an example of determining a mood for a group of attendees at an event, according to some example embodiments.

FIG. **7** is a diagram illustrating an example of determining a mood for a group of attendees at an event, according to some example embodiments.

FIG. **8** is a chart illustrating one example of a mood of a group of people over time, according to one example embodiment.

FIG. **9** is a chart illustrating one example of various emotions for a group of people according to one example embodiment.

FIG. **10** is a set of charts illustrating one example of emotions for different groups of people according to one example embodiment.

FIG. **11** is a flow diagram illustrating an example method for determining a mood for a group, according to some example embodiments.

FIG. **12** is a flow diagram illustrating an example method for determining a mood for a group and presenting results, according to some example embodiments.

FIG. **13** is a flow diagram illustrating an example method for determining a mood for a demographical group, according to some example embodiments.

FIG. **14** is a flow diagram illustrating an example method for determining an event, according to some example embodiments.

FIG. **15** is a flow diagram illustrating an example method for determining a mood for a group, according to some example embodiments



FIG. **16** depicts an example user device (e.g., smart phone) displaying an example user interface, according to some example embodiments.

FIG. **17** is a block diagram illustrating an example of a software architecture that may be installed on a machine, according to some example embodiments.

FIG. **18** illustrates a diagrammatic representation of a machine in the form of a computer system within which a set of instructions may be executed for causing the machine to perform any one or more of the methodologies discussed herein, according to an example embodiment.

The headings provided herein are merely for convenience and do not necessarily affect the scope or meaning of the terms used.

## DETAILED DESCRIPTION

The description that follows includes systems, methods, techniques, instruction sequences, and computing machine program products that embody illustrative embodiments of the disclosure. In the following description, for the purposes of explanation, numerous specific details are set forth in order to provide an understanding of various embodiments of the inventive subject matter. It will be evident, however, to those skilled in the art, that embodiments of the inventive subject matter may be practiced without these specific details. In general, well-known instruction instances, protocols, structures, and techniques are not necessarily shown in detail.

In this disclosure, different systems and methods are described for determining a mood of a group of people using images from the people's mobile computing devices. Certain embodiments, for example, involve identifying an event that includes two or more attendees, and receiving at least one indicator representing emotions of attendees (e.g. images or text). A mood detection system of a device can then generate a numerical value for each of the indicators. Numerical values for different users at the event can be aggregated by the device to determine an aggregate mood of the attendees of the event.

In certain embodiments a social messaging application (e.g., SNAPCHAT®) executing on user's mobile computer devices that is designed to capture images taken by the device may be used with a mood detection system for determining a mood of a group. In a social messaging application, a user captures an image (e.g., a still image, animated image, video, or the like, via an image sensor of the user device) and composes a message using the social messaging application.

Because the nature of the social messaging application is to communicate using images, the messages passed between users of the social messaging application frequently include the user's face (e.g. "selfies", images with the user and friends, or the like). The images may also include faces of other individuals within view of the image sensor.

Furthermore, technical advances in facial recognition make it possible for a mood detection system such as mood detection system **160** of FIG. **1** to determine an emotion of a user using an image of the user's face. Such a mood detection system **160** may also determine a level of the emotion. For example, a happiness rating may be from 0 to 5 and the mood detection system **160** could determine that one user in an image has a happiness rating of 2 while another user in the image has a happiness rating of 4. Various embodiments are not limited in this regard and any scale of level of an emotion may be used.